

Andrea Petri

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EDUCATION	<i>Laurea Specialistica</i> , Theoretical Physics, June 2011 Scuola Normale Superiore, Pisa Thesis advisor: Andrea Ferrara <i>Master of Arts</i> , Physics, May 2013 Columbia University <i>Master of Philosophy</i> , Physics, May 2014 Columbia University	
POSITIONS	<i>Graduate student researcher</i> , Columbia University Physics Department	2011-
PROFESSIONAL ACTIVITIES	Served as peer reviewer for AAS and the MNRAS journal	
TEACHING	<i>Graduate student instructor</i> Columbia University, NY, Physics Department <ul style="list-style-type: none">• Introductory Physics Lab (pre-medical) Fall 2011, Spring 2012• Introductory Physics Lab (engineers) Fall 2012, Spring 2013• Physical Cosmology (TA, grading), Fall 2012• Particle Astrophysics and Cosmology (TA, recitations), Spring 2013• EKA Advanced Physics Laboratory (TA), Fall 2013-• Particle Astrophysics and Cosmology (TA, grading), Spring 2015 <i>Instructor</i> Columbia University, NY, Science Honors Program Introduction to Cosmology for high school students	2011-

PUBLICATIONS

First authored

1. *Mocking the Weak Lensing universe: the LensTools python computing package*
A.Petri; to appear in Astronomy & Computing, Elsevier (2016)
2. *Sample variance in weak lensing: how many simulations are required?*
A.Petri, Z.Haiman, M.May; Phys. Rev. D. **93**, 063524 (2016)
3. *Emulating the CFHTLenS weak lensing data: Cosmological constraints from moments and Minkowski functionals*
A.Petri, J. Liu, Z.Haiman, M.May, L.Hui, J.M.Kratochvil; Phys. Rev. D. **91**, 103511 (2015)

4. *Impact of spurious shear on cosmological parameter estimates from weak lensing observables*
A.Petri, M.May, Z.Haiman, J.M.Kratochvil; Phys. Rev. D. **90**, 123015 (2014)
5. *Cosmology with Minkowski Functionals and moments of the weak lensing convergence field*
A.Petri, Z.Haiman, L.Hui, M.May, J.M.Kratochvil; Phys. Rev. D. **88**, 123002 (2013)
6. *Supermassive black hole ancestors*
A.Petri, A.Ferrara, R.Salvaterra; Mon. Not. R. Astron. Soc. **422**, 1690-1699 (2012)

Collaborations

- *Consequences of CCD imperfections for cosmology determined by weak lensing surveys: From laboratory measurements to cosmological parameter bias*
Y.Okura, A.Petri, M.May, A.Plazas, T.Tamagawa; to appear in APJ (2016)
- *Cosmology constraints from the weak lensing peak counts and the power spectrum in CFHTLenS data*
J.Liu, A.Petri, Z.Haiman, L.Hui, J.M.Kratochvil, M.May; Phys. Rev D. **91**, 063507 (2015)

AWARDS

- Co-recipient of the Allan M. Sachs Teaching Award for contributions to the educational programs in the Columbia University Physics Department (May 2016)
- Bronze medalist, 37th International Physics Olympiad, Singapore (July 2006)

TALKS

- *Non-gaussian statistics task force: update*
LSST DESC collaboration meeting, Stanford Linear Accelerator Center, Stanford, March 9th 2016
- *Non-gaussian statistics task force: the simulations*
LSST DESC collaboration meeting, Argonne National Laboratory, Chicago, October 28th 2015
- *Constraining cosmology with weak lensing: higher moments in CFHT*
AstroFest 2015, Columbia University, September 11th 2015
- *Cosmology with Minkowski Functionals and Moments of Weak Lensing Fields*
Santa Fe Cosmology Workshop, July 2014
- *Cosmology with Minkowski Functionals and moments of the weak lensing convergence field*
27th Symposium on Relativistic Astrophysics, December 8-13, 2013, Dallas, TX
<http://nsm.utdallas.edu/texas2013/proceedings/4/4/b/Petri.pdf>